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Structurized substrate for decoration; structural element; technical or architectural optical structural element; security element or food or pharmaceutical packaging, has structures in thermoplastic layer stabilized after making structure
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Abstract (Basic): EP 1352732 A2
NOVELTY - In substrates with preferably transferable structurized and/or unstructurized layers (A) and/or surface structures (B), (A) are applied to or in a lacquer layer (C), which is thermoplastic at this stage, and/or (B) is produced by copying a matrix in (C) under pressure and temperature and/or by embossing, then (C) is stabilized.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for production of these substrates by preparing a carrier substrate, coating this with lacquer layer (C), applying layers (A), optionally producing structures (B) and stabilizing (C).
USE - The substrate is used in decoration; as structural element; as optical structural element in the technical field and in architecture; as safety element for securities and data carriers; and as packaging element in the food and pharmaceutical industries (all claimed). The structures, e.g. diffraction structures, are useful as security elements in data carriers, especially securities such as credentials, cards, banknotes or tickets, seals etc., and also as packaging material in the pharmaceutical and food industries, e.g. as blister packers, e.g. for medicines, covers or packaging, for food, e.g. dairy products, and also for decorative or optical applications, e.g. in architecture.
ADVANTAGE - Substrates with (un)structurized layers and/or a diffraction structure or surface relief can be produced without a release layer, which can cause problems. Diffraction structures can be made with excellent precision, regardless of the type of carrier substrate. These layers and structures are not impaired during processing or transfer in the packaging industry or other technical areas, e.g. architectural area. Production is economical and environmentally friendly, transfer is simple and the products have excellent stability, especially chemical, thermal and mechanical stability.
DESCRIPTION OF DRAWING(S) - The drawing shows one embodiment of the process.
Carrier substrate (1)
Lacquer trough (2)
Immersion cylinder (3)
Transfer cylinder (4)
Gravure printing cylinder (5)
Doctor (6)
Embossing cylinder (10)
Stabilizing unit, e.g. radiation source (11)
Cooling roll (12)
Application of other layers e.g. by gravure printing (13)
Drying station (14)
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Derwent Class: A97; G05; P74; P75; P84
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